## COMMENTS

Independent claim 1 has been rewritten to be of narrower scope and to bring out the inventive coil concepts of the present invention. The principle features are brought out in five paragraphs in claim 1, paragraphs a) to e), and are described below.

Paragraph a) recites an open-E magnetic core with the open ends at the high voltage end and having two biasing magnets placed at the open end (see Figure 5a, 5b of this application) and not having open ends at the other end of the core as in the case of pencil coils, thus having one open end on the bottom of the outer legs (one pair of parallel gaps) and having relatively higher inductance Lp than the pencil coils of Nakamura with two series gaps, with the present invention having fewer number of primary turns and satisfying the other features of the design, i.e. biasing magnetic flux of up to 2 Tesla by use of high flux density NdFeB or SmCo biasing magnets.

Paragraph b) recites two biasing magnets at one end of an open-E core each having a length lm, e.g. Figure 5a of this application, and essentially filling the two air-gap lw or w and wherein each biasing magnet having a cross-sectional area ½ · Abias at right angles to the air-gap direction of the bias magnetic field Bbias, and wherein the direction of the bias magnetic field Bbias is perpendicular to the direction of the magnetic core Bcore of the area ½ · Acore at the intersection of the core and the bias magnets, i.e. assuming the side legs and center leg of the core are oriented in a vertical direction and therefore the direction of Bcore is vertical at the intersection with the two ends of each end of the biasing magnets where the field direction Bbias is horizontal and perpendicular (e.g. Figure 5a) herein, and furthermore at the ends of the center leg and the two side legs of the core which contain the biasing magnets there is formed core leg E-sections which are of uniform cross-section through their (vertical) length.

Paragraph c) recites two biasing magnets at the open end that have a cross-sectional area ½ · Abias with one side of the two legs of thickness "t" equal to the width or thickness of the core, and another side along the length "z" of dimension h, e.g. Figure 5a herein, approximately equal to or larger than the other dimension of the side leg, i.e. ½ · Abias = t · h, whereby the dimension h is free to be chosen such that the area Abias can be greater than the total core cross-section Acore such that 1) the bias magnetic flux

density in the entire core can be as high as 2 Tesla with only one pair of bias magnets at one end, versus 0.5 Tesla in Nakamura Figure 13, 14, and 2) the bias magnetic flux density in the entire core is as high as 2 Tesla with only one pair of bias magnet at one end, versus 1.5 Tesla with two magnets at both ends in Nakamura Figure 15, 16.

Paragraph d) recites that the E-core is a not a pencil type core of Nakamura but is a solid rectangular core with the exception of the winding windows in which the primary winding and secondary winding are contained.

Paragraph e) recites said open-E core with two biasing magnetic located at the end of the core resembling a closed E-core commonly found in automotive ignition coils.

All this is supported by the disclosure of the present application.

Claims 2 through 24 are dependent claims supported by the disclosure, with claims 6 and 20 now cancelled.

Independent claim 25 is similar to claim 1, i.e. reciting that the system comprising an open-E core with two biasing magnets in said two air gaps in the magnetic core, made up of cylindrical laminations comprising a rectangular core. Claims 26 through 29 are dependent claims depending on claim 25 and supported by the disclosure.

Independent claim 30 recites an open-U core with one biasing magnet having a bias of greater than 1 Tesla throughout the core, versus 0.5 Tesla in Nakamura in Figures 13, 14.

Claims 21-30 do not add new matter but serve to explain the invention with greater specificity. Support for claims 21-30 appears in the original specification.

Should there be any questions or comments, the Examiner is invited to call the undersigned at the address given above at 617-345-3000.

If additional fees are owed due to claims adjustment, please charge Deposit Account No. 03-2410, Order No. 6050. A duplicate copy of this page is enclosed for accounting purposes.

Dated: August 17, 2006

Respectfully submitted

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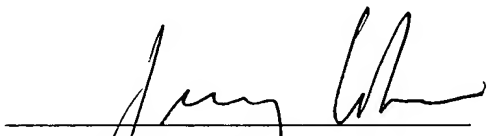
By: 

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